

In the Claims:

Claims 1 to 16 (Canceled).

1 17. (Currently amended) A gas turbine engine comprising a
2 rotatable rotor with rotor blades, which optionally have
3 seal fins on radially outer blade tips of the rotor blades,
4 and an abradable shroud lining arranged circumferentially
5 around the blade tips such that the seal fins or the blade
6 tips graze the abradable shroud lining, wherein:

7 the abradable shroud lining comprises a carrier having
8 a carrier surface, and an open-pored metal foam component
9 having a back surface and a front surface opposite the back
10 surface,

11 the metal foam component comprises an open-pored metal
12 foam ~~produced by foaming expansion of a melted metal~~
13 ~~powder, which metal foam that~~ is bare and exposed at the
14 front surface of the metal foam component, which is
15 arranged relative to the rotor so that the seal fins or the
16 blade tips directly graze the metal foam,

17 the back surface of the metal foam component is
18 rigidly connected continuously surfacially along the back
19 surface onto the carrier surface of the ~~carrier, carrier,~~
20 whereby the metal foam component is continuously supported
21 along the back surface thereof on the carrier surface of
22 the carrier; and

the carrier has holes passing therethrough and opening through the carrier surface to allow gas communication through the holes and from the holes directly into the back surface of the metal foam component and through the open-pored metal foam in a radial gas flow direction that extends radially relative to an axis of the gas turbine engine.

18. (Previously presented) The gas turbine engine according to claim 17, wherein the entire back surface of the metal foam component and the entire carrier surface each extend continuously along respective straight axis-parallel lines on respective cylindrical contours.

19. (Previously presented) The gas turbine engine according to claim 17, further comprising a glue, wherein the metal foam component is rigidly connected surfacially along the entire back surface onto the carrier surface of the carrier by the glue.

20. (Previously presented) The gas turbine engine according to claim 17, further comprising a solder, wherein the metal foam component is rigidly connected surfacially along the entire back surface onto the carrier surface of the carrier by the solder.

1 21. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the rotor blades have the seal fins on
3 the radially outer blade tips, and the metal foam component
4 is arranged so that the seal fins directly graze the metal
5 foam at the front surface of the metal foam component.

1 22. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the metal foam component consists of the
3 metal foam.

1 23. (Previously presented) The gas turbine engine according to
2 claim 22, wherein the metal foam component consists of a
3 single uniform monolithic component of the metal foam.

1 24. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the front surface of the metal foam
3 component has a stepped surface contour as seen on an axial
4 plane.

1 25. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the metal foam comprises a titanium alloy
3 or a nickel alloy.

1 26. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the metal foam comprises an aluminum
3 alloy.

1 27. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the metal foam comprises a cobalt alloy
3 or an iron alloy.

1 28. (Previously presented) The gas turbine engine according to
2 claim 17, wherein the metal foam comprises an intermetallic
3 titanium-aluminum alloy.

1 29. (Currently amended) A method of making an abradable shroud
2 lining for a gas turbine engine, comprising the steps:

3 a) mixing together a metal powder and a propellant to
4 prepare a mixed powder;

5 b) compressing and forming the mixed powder to form a
6 semi-finished part;

7 c) heating the semi-finished part sufficiently so as to
8 melt the metal powder and so as to trigger evolution
9 of gas by the propellant;

10 d) expanding the semi-finished part by a foaming
11 expansion due to the evolution of gas by the
12 propellant, to produce an expanded part of an
13 open-pored metal foam;

14 e) cooling the expanded part so as to end the foaming
15 expansion and solidify the open-pored metal foam
16 to form thereof a metal foam component;

17 ~~f) after said step e), providing the expanded part as a~~
18 ~~metal foam component of an abradable shroud lining for~~
19 ~~a gas turbine engine.~~

f) rigidly connecting the metal foam component continuously surfacially along a back surface thereof onto a carrier surface of a carrier that has holes passing therethrough and opening through the carrier surface to allow gas communication through the holes, whereby the metal foam component is continuously supported along the back surface thereof on the carrier surface of the carrier and the open-pored metal foam allows gas communication from the holes of the carrier directly into the back surface of the metal foam component and through the open-pored metal foam, whereby the metal foam component rigidly connected to the carrier forms an abradable shroud lining; and

g) mounting the abradable shroud lining in a gas turbine engine circumferentially around rotor blades of the engine so that the rotor blades graze a front surface of the metal foam component opposite the back surface thereof.

30. (Previously presented) The method according to claim 29, wherein the propellant comprises titanium hydride.

31. (Previously presented) The method according to claim 29, wherein the metal powder comprises a powder of a titanium alloy or a nickel alloy.

1 32. (Currently amended) The method according to claim 29,
2 ~~further comprising a step of wherein said rigid connecting~~
3 ~~in said step f) comprises~~ gluing the metal foam component
4 surfacially onto [[a]] the carrier, ~~and providing the~~
5 ~~carrier with gas passage holes passing therethrough, to~~
6 ~~allow gas communication through said holes directly into~~
7 ~~the metal foam component.~~

1 33. (Currently amended) The method according to claim 29,
2 ~~further comprising a step, between said steps e) and f), of~~
3 ~~wherein said step e) further comprises~~ surface machining
4 the expanded part to prepare the metal foam component.

1 34. (New) The gas turbine engine according to claim 17, wherein
2 said open-pored metal foam is produced by, and has
3 characteristics as result from being produced by, foaming
4 expansion of a melted metal powder.

1 35. (New) A gas turbine engine comprising a rotatable rotor
2 with rotor blades, which optionally have seal fins on
3 radially outer blade tips of the rotor blades, and an
4 abradable shroud lining arranged circumferentially around
5 the blade tips such that the seal fins or the blade tips
6 graze the abradable shroud lining, wherein:

7 the abradable shroud lining comprises a carrier having
8 a carrier surface, and an open-pored metal foam component

9 having a back surface and a front surface opposite the back
10 surface,

11 the metal foam component comprises an open-pored metal
12 foam that is bare and exposed at the front surface of the
13 metal foam component, which is arranged relative to the
14 rotor so that the seal fins or the blade tips directly
15 graze the metal foam,

16 the back surface of the metal foam component is
17 rigidly connected surfacially onto the carrier surface of
18 the carrier;

19 the carrier has holes passing therethrough and opening
20 through the carrier surface to allow gas communication
21 through the holes and from the holes directly into the back
22 surface of the metal foam component and through the
23 open-pored metal foam in a radial gas flow direction that
24 extends radially relative to an axis of the gas turbine
25 engine; and

26 the entire back surface of the metal foam component
27 and the entire carrier surface each extend continuously
28 along respective straight axis-parallel lines on respective
29 cylindrical contours.